

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

CLAIMS:

1. An ultrasonic diagnostic apparatus comprising:
 - an ultrasonic probe;
 - 5 a transmitting/receiving device for driving the ultrasonic probe to transmit an ultrasonic pulse into a subject and receiving an ultrasonic echo from the subject to output received data;
 - an ultrasonic image producing device for producing an ultrasonic image from the resulting received data;
 - 10 a display device for displaying the produced ultrasonic image;
 - a freeze control device for maintaining a state displaying the last ultrasonic image in response to a freeze-on operation by an operator and resuming production/display of a new ultrasonic image in response to a freeze-off operation by the operator; and
 - 15 a freeze time duration measuring device for measuring and displaying time duration of the freeze state.
2. An ultrasonic diagnostic apparatus comprising:
 - an ultrasonic probe;
 - 20 a transmitting/receiving device for driving the ultrasonic probe to transmit an ultrasonic pulse into a subject and receiving an ultrasonic echo from the subject to output received data;
 - an ultrasonic image producing device for producing an ultrasonic image from the resulting received data;
 - 25 a display device for displaying the produced ultrasonic image;
 - a freeze control device for maintaining a state displaying the last ultrasonic image in response to a freeze-on operation by an operator and resuming production/display of a new ultrasonic image in response to a freeze-off operation by the operator; and
 - 30 an elapsed-time-from-freeze-off measuring device for measuring and

displaying an elapsed time from freeze-off.

3. An ultrasonic diagnostic apparatus comprising:
an ultrasonic probe;

- 5 a transmitting/receiving device for driving the ultrasonic probe to transmit
an ultrasonic pulse into a subject and receiving an ultrasonic echo from the
subject to output received data;
- 10 an ultrasonic image producing device for producing an ultrasonic image
from the resulting received data;
- 15 a display device for displaying the produced ultrasonic image;
a freezing device for maintaining a state displaying the last ultrasonic
image in response to a freeze-on command by an operator;
an operation-at-start-of-injection device for operation by the operator at the
start of contrast agent injection; and
- 20 an elapsed-time-from-injection measuring device, which is not stopped
even if freeze-on is commanded, for measuring and displaying time elapsed from
an operation of the operation-at-start-of-injection device.

4. An ultrasonic diagnostic apparatus comprising:

- 20 an ultrasonic probe;
a transmitting/receiving device for driving the ultrasonic probe to transmit
an ultrasonic pulse into a subject and receiving an ultrasonic echo from the
subject to output received data;
- 25 an ultrasonic image producing device for producing an ultrasonic image
from the resulting received data;
- 30 a display device for displaying the produced ultrasonic image;
a freezing device for maintaining a state displaying the last ultrasonic
image in response to a freeze-on command by an operator;
a time-measurement-start commanding/operating device for use by the
operator to operate to command start of time measurement; and

an elapsed-time measuring device, which is not stopped even if freeze-on is commanded, for measuring and displaying time elapsed from an operation of the time-measurement-start commanding/operating device.

- 5 5. An ultrasonic diagnostic apparatus comprising:
 - an ultrasonic probe;
 - a transmitting/receiving device for driving the ultrasonic probe to transmit an ultrasonic pulse into a subject and receiving an ultrasonic echo from the subject to output received data;
- 10 an ultrasonic image producing device for producing an ultrasonic image from the resulting received data;
 - a display device for displaying the produced ultrasonic image;
 - an intermittent imaging control device for controlling the aforementioned device to produce an ultrasonic image at a frame rate less than one; and
- 15 an elapsed-time measuring device for measuring and displaying time elapsed from a time at which a currently displayed ultrasonic image was captured.